

## REMARKS

Claims 1, 2, 4, 6 and 8 are currently amended. Claim 29 is new. Reconsideration of the application in view of the amendments above and following remarks is requested.

**I: The Restriction Requirement Pursuant to 37 CFR 1.142(b) relating to claims 10-11, 13-15, 17, 19, 22-24**

The Examiner has issued a restriction requirement pursuant to 37 CFR 1.142(b) and withdrawn claims 10-11, 13-15, 17, 19 and 22-24. Applicants traverse this restriction requirement.

The originally submitted claims were drawn to either diblock or triblock polymeric vesicles and claims 10-11, 13-15, 17, 19 and 22-24 relate to both diblock and triblock polymeric vesicles. Applicants disagree with the requirement for restriction, and pursuant to 37 CFR 1.143 request reconsideration and withdrawal or modification of the requirement. It would not be a serious burden for the USPTO to conduct a search of vesicles that are diblock and triblock compared to diblock or triblock. Reconsideration of the restriction requirement is urged.

Notwithstanding the above traversal, Applicants elect claims drawn to di block or triblock polymeric vesicles. Claims 1-2, 4-6, 8 and 25-29 are encompassed by this election. Applicants reserve the right to file additional divisional applications on non-elected subject matter.

**II: The Rejection of Claim 4 under 35 U.S.C. 112, second paragraph**

Claim 4 is currently amended. The claim is clear to one of skill in the art. Reconsideration is urged.

**III. The Rejection of Claims 1, 2, 5-6, 8 and 25-28 under 35 U.S.C. 102(e) as being anticipated by Meier (6,916,488).**

The Examiner has rejected claims 1, 2, 5-6, 8 and 25-28 as anticipated by U.S. Patent No. 6,816,488 (hereinafter referred to simply as "Meier"). This rejection is traversed.

The present disclosure relates to novel compositions and methods where polymersomes are stable in the presence of surfactant. Independent claims 1 and 2, require, *inter alia*, a detergent composition including surfactant; and enzyme (or enzymes) encapsulated in a polymersome comprising a uni-lamellar or multi-lamellar vesicle, wherein

the vesicle comprises at least 50% of a synthetic polymer as a vesicle forming agent, wherein the synthetic polymer is a di- or tri-block-co-polymer composed of monomers selected from the group consisting of ethyleneoxide, propyleneoxide, ethylethylene, acrylic acid and vinyl amine. Claims 1 and 2 require that the polymersome(s) is stable in the presence of surfactant. Nothing in Meier discloses that the claimed detergent compositions where polymersomes remain stable in the presence of surfactant. Accordingly, Meier is deficient for failing to describe a detergent composition where polymersome(s) remains stable in the presence of surfactant. Reconsideration is urged.

Similarly, independent claims 6 and 8 are currently amended to include surfactant containing composition, and require that the polymersome is stable in the presence of the surfactant. Nothing in Meier discloses that the claimed compositions including polymersomes remain stable in the presence of surfactant. Accordingly, Meier is deficient for failing to describe a polymersome which remains stable in the presence of a surfactant.

Independent claim 5 requires, *inter alia*, the step of adding the vesicle to a surfactant containing composition. Meier is deficient for failing to describe this step. Further, claim 5 requires polymersome that is stable in the presence of surfactant. Meier is deficient for failing to describe this characteristic. Reconsideration is urged.

No claims are obvious in light of the cited reference. Reconsideration is urged.

#### **IV. The Rejection of Claims 1-2, 4-6, 8 and 25-28 under 35 U.S.C. 103(a)**

Claims 1, 2, 5-6, 8, 25-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,017,501 to Wong (hereinafter referred to simply as "Wong") in view of an article entitled *Polmersomes: Tough Vesicles Made of Diblock Copolymers* to Disher *et al.* (hereinafter referred to simply as "Disher") or *vice versa* (Disher in view of Wong). Claims 1-2, 4-6, 8 and 25-28 stand rejected as being unpatentable over Discher in view of Meier. Claim 4 is rejected in light of Wong, Discher and WO 97/24177. These rejections are respectfully traversed.

Initially, Applicants note that claims 1, 2, 4, 6 and 8 are currently amended. Accordingly, Applicants have been fully responsive to the Examiner with respect to these claims.

Applicants have created novel detergent and surfactant containing formulations and methods which include polymersomes that remain stable in the presence of surfactant. Nothing in the prior art discloses that the claimed compositions and methods including polymersomes that remain stable in the presence of surfactant. Accordingly, all references are deficient for failing to describe a detergent composition or surfactant containing composition including polymersome(s) which remains stable in the presence of a surfactant. No claims are obvious in light of the cited references. Reconsideration is urged.

With respect to claim 5, claim 5 requires the step of adding the vesicle to a surfactant containing composition. This step is not disclosed in any reference, or combination thereof and the examiner has failed to make a *prima facie* showing of obviousness. Reconsideration is urged.

With respect to the rejection of claim 4, the Examiner contends that claim 4 is obvious in light of Wong, Discher and WO 97/24177. The Examiner contends, *inter alia*, that WO 97 teaches liquid detergent compositions containing non-ionic block copolymers and encapsulated enzymes. One of skill in the art would be motivated further to use the tough vesicular preparations made from the diblock polymers of Meier and Discher since WO 92 shows the use of these polymers for encapsulating of enzymes in laundry detergent compositions. Applicants traverse this rejection and any obviousness rejection to the claims herein as amended to detergent compositions.

Meier and Discher are deficient for the reasons above. Further, Applicants note that the Examiner contends that the Discher particles are "tough". In Discher, the term "tough" refers to micro-mechanical properties of polymersomes versus liposomes. While Discher may imply the polymersomes are mechanically tough, there is no suggestion that the Discher polymersomes are able to sustain the presence of surfactant concentrations. It is well known in science that the chemistry of certain reactions can reduce or eliminate things that are mechanically tough. It is a non-trivial step to translating and adapting the significance of the findings of Discher to the application of polymersomes for stabilizing enzymes in liquid detergents. One of skill in the art would not presuppose a likelihood of success in using polymersomes for stabilizing enzymes in liquid detergents including surfactant containing compositions.

WO 97 does not cure the deficiencies of Meier and Disher. WO 97 relates to a liquid detergent composition that has an outer detergent phase and enzyme containing particles dispersed in the liquid phase. The particles have a polymer shell formed from a condensation polymer which is permeable to water and low molecular weight components of the outer liquid phase and the core includes the enzyme, an inner liquid detergent phase in substantial equilibrium with the outer phase and a core polymer which causes stretching as a result of osmosis when the concentrate is diluted in water. Encapsulated precipitated enzymes are also disclosed.

WO97 is conceptually very different from the present disclosure and what is discussed in Meier and Discher relating to polymersomes. For example, the WO 97 compositions have a shell, which is much different from the polymersomes of the present disclosure. One of ordinary skill in the art would not have a likelihood of success of overcoming problems associated with surfactants on polymersomes based on WO 97. The cited references provide no guidance as to how to successfully add the claimed polymersomes to surfactant containing compositions and detergents. One of skill in the art would not be motivated to use the preparations made from the diblock polymers of Meier and Disher in light of the WO 92. Accordingly, the Examiner has failed to make a prima facie showing of obviousness. Reconsideration is urged.

#### **V. New Claim**

Applicants request that the Examiner consider new claim 29. It is believed that no new matter is presented. Should any additional fees be due, the Examiner is authorized to charge Applicants Deposit Account No. 50-1701.

**VI. Conclusion**

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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